REMARKS

Status Summary

In this Amendment, no claims are added and no claims are canceled. Therefore, upon entry of this Amendment, claims 1-46 will be pending.

Claim Rejections 35 U.S.C. § 103(a)

Claims 1-3, 7-9, 16, 22, 25, 27, 28, 30, 32, and 44 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,515,985 to Shmulevich et al. (hereinafter, "Shmulevich") in view of U.S. Patent No. 6,178,181 to Glitho (hereinafter, "Glitho") and U.S. Patent No. 6,487,246 to Reaves (hereinafter, "Reaves"). This rejection is respectfully traversed.

Independent claims 1, 25, and 30 have been amended to recite that the distributed gateway routing elements send signaling messages of a plurality of different types and determine the quality of service parameters to be included in signaling messages routed between the distributed gateway routing elements based on the message type. Support for the claim amendment that the DGREs send signaling messages of a plurality of different types is found, for example on page 19, lines 3-12 of the present specification, where both ISUP and TCAP messages are disclosed as being sent by DGREs. Support for the claim amendment of determining the QoS based on the message type is found on page 21, lines 11-16 of the present specification. Providing intelligence at the distributed gateway routing element that allows the distributed gateway routing element to determine the quality of service to be assigned to SS7 signaling message packets based on the message type allows different QoS

values to be assigned to different types signaling message packets, for example, based on the time sensitivity of the various message types in accordance with SS7 standards. (See page 19, lines 13-16 of the present specification.)

Shmulevich does not disclose setting any quality of service of parameters in messages sent over IP network **76**. This admitted in paragraph 2 of the Official Action:

> Shmulevich fails to disclose a step of setting a quality of service parameters in the SS7 routed messages sent over the virtual bus. (See paragraph 2 of Official Action dated January 9, 2004.)

From this passage, the Official Action correctly notes that Shmulevich fails to disclose a step of setting quality of service parameters. The Official Action indicates that Glitho discloses setting quality of service parameters such as TTL and TOS in SS7 routed messages. Applicants agree that Glitho discloses setting quality of service parameters in certain messages. However, there is absolutely no teaching or suggestion in Glitho that distributed gateway routing elements determine quality of service parameters to be included in SS7 call signaling messages based on the message type. In contrast to providing a distributed gateway routing element that dynamically determines quality of service parameters based on the SS7 message type, Glitho discloses that the quality of service parameters to be included in the message are statically configured by the operator via a user interface. In addition, Glitho discloses only a single message type, SCCP messages, being sent between nodes. (See column 4, lines 37-56 of Glitho.) Since Glitho teaches that the quality of service parameter is static and that only a single type of message is sent between the nodes, Glitho fails to teach or suggest the invention as claimed.

Reaves likewise fails to teach or suggest setting quality of service parameters to be included in SS7 messages sent over a virtual bus based on the message type. There is no mention in Reaves of setting any quality of service parameters in messages sent over the IP network. Reaves merely states that messages sent between the various STP elements are sent over the IP network. (See column 6, lines 56-65 of Reaves.) Thus, because Shmulevich, Reaves, and Glitho, either when taken individually or when combined, fail to teach the invention as claimed, it is respectfully submitted that the rejection of independent claims 1, 25, and 30 and their respective dependent claims should now be withdrawn.

With regard to claim 3, the Official Action indicates that Figure 8, reference numeral **186** and column 13, lines 35-49 of Shmulevich disclose routing signaling messages based on CIC codes. Applicants respectfully disagree. Reference number **186** in Figure 8 of Shmulevich is a call control block. Call control blocks route bearer information, rather than call signaling messages. Column 13, lines 35-49 of Shmulevich state as follows:

> Call control block **186** provides context support and port selection for each circuit identification code (CIC) in calls between one MSC and another. Preferably, there is a respective IP port associated with each CIC, enabling block **186** to determine the proper CIC or IP for each outgoing or incoming call that it handles. Block **186** keeps track of the context (state machine) of each call and controls the media gateway accordingly. Thus, application-level call control messages in the SS7 system are not terminated at gateway **74**, as in signaling gateways known in the art, but rather are encapsulated and carried through the IP network to the destination MSC. Call control block **186** is also responsible for getting and handling all of the relevant call control-associated messages, such as ISUP, TUP, IS-41, etc.

The above-referenced passage from Shmulevich merely states that call control block **186** uses the CIC to select the context and the port between mobile switching centers. A context is a bearer channel connection. A port is an I/O interface for the bearer channel connection. Thus, nothing about the fact that call control block **186** is described as selecting a port and a context based on the CIC teaches or suggests routing signaling messages based on the CIC. Similarly, the last sentence in the paragraph also indicates that call control block **186** handles call control associated signaling messages. However, there is absolutely no teaching or suggestion that the CIC is used in routing signaling messages between distributed gateway routing elements as claimed. Accordingly, for this additional reason, the rejection of claim 3 should be withdrawn.

Claims 4-6, 10-15, 17-21, 23, 24, 26, 29, 31, 33-43, 45, and 46 were rejected as unpatentable over Shmulevich, Reaves, and Glitho as applied to claims 1, 25, and 30 and further in view of European Patent Publication No. 1,054,568 to Krishnamurthy (hereinafter, "Krishnamurthy"). This rejection is respectfully traversed.

As discussed above, Shmulevich, Reaves, and Glitho fail to teach a distributed gateway routing element that determines a quality of service parameter to be included in a call signaling message sent between distributed gateway routing elements based on the message type. Krishnamurthy likewise lacks such teaching or suggestion. Like Glitho, Krishnamurthy is directed to sending SCCP messages over an underlying IP network. There is no mention in Krishnamurthy of setting any quality of service parameters in the IP messages, not to mention determining quality of service parameters based on the SS7 message type. Accordingly, for this reason alone, it is

respectfully submitted that the rejection of these claims as unpatentable over Shmulevich, Reaves, and Glitho in view of Krishnamurthy should be withdrawn.

With regard to claims 17-21, the Official Action indicates that Shmulevich, Reaves, and Glitho fail to disclose the elements of these claims. Nonetheless, the Examiner takes official notice that a translation services module is well known and that it would be obvious to apply such a module to the systems of Reaves, Schmulevich, and Glitho "to turn a data network into a signaling network." Applicants respectfully submit that providing a translation services module that performs global title translation, directory number-to-IP address translations, or number portability address translations and that is connected to a distributed gateway routing element via a virtual would not be obvious in light of Schmulevich, Reaves, and Glitho. Such functions are usually performed at STPs or stand-alone database nodes. Schmulevich, Reaves, and Glitho do not teach otherwise. In fact, Reaves states, "SCPs are database servers which provide call routing information to the STPs so that the STPs can perform their tasks of communicating call routing information to the SSPs." (See column 4, lines 43-46 of Reaves.) There is absolutely no teaching or suggestion in Reaves or any of the other cited references of moving such functionality to a translation services module that is part of a distributed STP. Applicants respectfully submit that for this additional reason the rejection of these claims should be withdrawn.

Regarding claims 31, 33-36, 38-40, 43, 45, and 46, the Official Action indicates that Shmulevich, Reaves, and Glitho fail to disclose the claim elements relating to using IPv6 and MPLS to provide quality of service between distributed gateway routing elements. However, the Examiner takes official notice that IPv6 and MPLS are well

known and asserts that a person of skill in the art would be motivated to apply these protocols to Shmulevich, Reaves, and Glitho "to provide a highly reliable way to transmit an SS7 message via a data network." Applicants respectfully disagree with the assertion that a person of ordinary skill in the art would be motivated MPLS and IPv6 to provide quality of service between distributed gateway routing elements. Applicants are not claiming the IPv6 and MPLS protocols themselves. Rather, claims 31, 33-36, 38-40, 43, 45, and 46 relate to specific methods for setting quality of service parameters and call signaling messages sent between distributed gateway routing elements. For example, claim 34 indicates that the MPLS label added to the call signaling message corresponds to a forwarding equivalence class pre-assigned to SS7 signaling messages. Claim 36 indicates that the experimental use field in the MPLS header of each message is set to a predetermined value for indicating quality of service to be given to SS7 messages within the forwarding equivalence class. Using MPLS, forwarding equivalence classes, or the experimental use parameter to provide QoS for SS7 call signaling messages is not well known in the art, and the Examiner has not provided any documentation to support this assertion. Accordingly, for this additional reason, the rejection of the claims that recite specific uses of MPLS to provide QoS should be withdrawn.

With regard to the IPv6 claims, these claims relate to setting a parameter and a flow label of an IPv6 header to indicate high time sensitivity. Again, Applicants respectfully submit that although IPv6 is known, there is absolutely no teaching or suggestion in any of the cited references or in the general knowledge of a person of ordinary skill in the art of using this protocol to transmit call signaling messages between

distributed gateway routing elements or setting specific IPv6 quality of service parameters in the signaling messages. Accordingly, for this additional reason, Applicants respectfully submit that the rejection of the claims that relate to using IPv6 parameters to provide quality of service should be withdrawn.

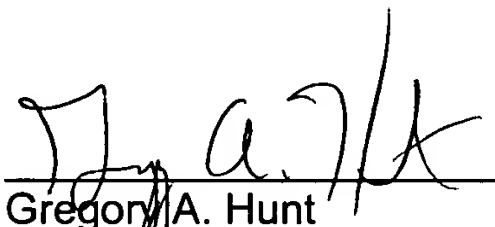
CONCLUSION

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

The Commissioner is hereby authorized to charge any fees associated with the filing of this correspondence to Deposit Account No. **50-0426**.

Respectfully submitted,

JENKINS, WILSON & TAYLOR, P.A.

Date: September 2, 2004 By: 

Gregory A. Hunt
Registration No. 41,085

Customer No.: 25297

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Enclosure